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ABSTRACT

Thirteen classroom teachers took a graduate course, "Writing with Computers: Teaching the Academically Able," during an intensive 3-week session. The teachers were all seeking certification and/or masters degrees in gifted education. Only seven of them had used computers in their classrooms and most of the seven stressed that they did not use them for teaching. Furthermore, most lacked confidence both as writers and as teachers of writing. They maintained daily writing process logs, and after only a few days, most were comfortable with the word processing program. Each teacher completed an individual project, and many planned ways to use word processing and computers in other aspects of their professional lives. Six months later, eleven of the teachers responded to a follow-up questionnaire, which indicated that eight were teaching writing more than they had before the course, many were using an expanded repertoire of writing activities, and a few were even conducting computer-use workshops for their colleagues. Most of the teachers had incorporated word processing into their own writing with half of them using it to teach writing, although lack of software and hardware, funding, and computer-to-student ratios were identified as common problems. (AEW)

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Teaching Teachers to Use Computers for Writing Across the Curriculum

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In recent years there have been several movements intended to improve the quality of writing instruction in schools: the teaching of writing as a process, not simply a product; the use of writing as a tool for learning, not just in the English classroom but across the curriculum; and the use of microcomputers, particularly word processing, for writing. Yet practices related to these areas frequently do not reach public school classrooms. Sometimes teachers simply have not heard about them. But even when teachers have, for example when they have taken a graduate course dealing with the theory and practice of using computers as writing tools, the teachers may not integrate these concepts into their teaching situations.

This paper presents my findings from a descriptive study of thirteen classroom teachers who took a graduate course entitled, "Writing With Computers: Teaching the Academically Able" which I taught and researched during an intensive three-week session last summer at the University

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of Arkansas at Little Rock. This research looks at the prior attitudes and teaching experiences of the students before taking this course in terms of writing, computers, and the teaching of writing with computers. The study also looks at the students' pedagogical practices six months later to see whether or not modifications had taken place.

Teaching Goals

I studied this class of graduate students using a variety of qualitative, data-gathering techniques: student journals, papers and projects, before and after interviews, field notes, and pre and post-questionnaires. I anticipated that as a result of this intensive three-week introductory course most, if not all, of the teachers would learn to word process, create pedagogical activities for their students, and integrate computers as writing tools into their teaching.

As the teacher of the course, I had several goals. My first goal was for the students to overcome any anxieties concerning their abilities as writers and as teachers of writing. I wanted to create opportunities for them to experience the pleasure of improving their writing in a non-threatening environment and to increase their metacognitive insights into their writing processes.

My second goal was to have the students overcome their fears concerning their abilities as computer users. I

wanted to create an environment that encouraged them to acquire a working knowledge of the specific computer hardware and software that we were using, to integrate word processing into their composing/revising strategies, and to become familiar with other software that might be useful for teaching writing in holistic, contextualized ways. My final goal was to model teaching strategies and to create opportunities for the students to adapt their learning experiences to their particular teaching situations.

The class met three hours per day, five days a week for three weeks. For two hours each day we met in the Writing Center where the students learned through demonstrations, handouts, and one-on-one assistance how to word process using Apple IIe computers and Appleworks, a word-processing program. Students wrote journal entries describing their experiences as learners and one or two informal reactions to articles and chapters from books each day. The third hour we discussed topics related to the teaching of writing, with and without computers, and students worked at times in collaborative groups.

The last week of the course the students worked on term projects: designing pedagogical activities for their students. In addition they used other software that supports the teaching of writing holistically such as prewriting, poetry, and other word-processing programs.

Overview of the Students

In order to see what changes took place we must see the teachers as they entered the course. These thirteen graduate students consisted of one male and twelve females, all public school teachers of the gifted in Arkansas. In addition to teaching, a few are coordinators of the gifted. These teachers have an average of 10.6 years of teaching experience, five being the fewest number of years and 19 the most. All were seeking certification and/or masters degrees in gifted education. Except for one who teaches music and another who teaches math, the teachers teach in classrooms of gifted students or in resource rooms where students come for enrichment.

Prior Experiences With Computers

Most of the students had very little, if any, computer using experience, either for their own personal use or in teaching, prior to this course. Only three of the teachers had had any coursework involving computers: two of them had taken a two-day workshop in Logo and one an introductory course in Basic. None had taken course work in word processing, although four students had some limited exposure. (One teacher used The Bank Street Writer with assistance from her son, another had used a friend's program with assistance, a third had used MacWrite on her parents'

Macintosh, and a fourth student used Paper Clip for writing papers.)

The students' access to computers in their schools was limited. One teacher taught in a school that had no computers, seven teachers were in schools with three to five computers, and three teachers were in schools with labs containing 15-20 computers each, although these teachers reported never using them.

Seven teachers had used computers in their classrooms and six had not. Almost all of the seven teachers, however, stressed that they did not <u>teach</u> with computers, but rather let students use them for "playing games," for "practicing materials," and as a "suppliment" during "free time." Two teachers, however, used computers for language arts activities: one for Haiku poetry and programs drilling spelling and vocabulary, and the other used, Newsroom. None of the teachers had ever taught writing with word processing. In fact, word processing for writing was not used in any of the teachers' schools, although one school used word-processing in a business course.

It is not surprising, therefore, that all the participants indicated feeling anxiety about using computers. They described their feelings using words such as "apprehensive," "unsure," "scared," "nervous," "afraid," and "anxious." A typical response: "I'm afraid of breaking the equipment. I hate to destroy machinery."

The Students as Writers

Most of the students also lacked confidence in themselves as writers. In answer to the question, "Do you generally feel positively or negatively about yourself as a writer," three of the students had generally positive feelings, four had mixed feelings, and six had strong, negative feelings.

Students with mixed feelings about their writing abilities made comments similar to this one: "I think I am a fairly good writer in the areas of writing that are necessary to my job, but I feel somewhat inhibited when it comes to creative writing." A student who felt negatively about herself as a writer said, "I feel negatively because I feel unsure about spelling, grammar, and ideas. I don't feel very creative."

Very few students had any memory of writing instruction at the elementary level, but when they did it was mostly negative. At the secondary level most students remembered receiving little or no instruction in writing. Only two students recalled having secondary level teachers who were excited about writing and who actively taught it.

Many recalled negative experiences concerning their school writing, but few recalled positive ones. Even potentially positive experiences sometimes turned out to be negative. Brenda, one of the three positive writers, had

written an essay in the eighth grade on the generation gap that she'd liked very much. As Brenda put it:

> My teacher, however, had a different opinion. She rewrote the entire piece, with the exception of the opening sentence. The irony of it was, she submitted my "revised" work for competition, and it was published.

Most of the students said that they felt uncomfortable about themselves as teachers of writing. Teaching writing as a process, in one form or another, is advocated by most writing specialists today; however, all of these teachers were unfamiliar with it at the start of the course, although two had heard of writing across the curriculum.

Learning Experiences in the Class

Given the students' lack of confidence and experience, both in writing and computers, it might be reasonably assumed that not much could be accomplished in just three weeks, even though the students appeared highly motivated to succeed. How successful were they? Did this course modify their conceptions of themselves as writers or computer users? Did they carry new theories and practices back to their classrooms?

Since the students maintained daily writing process logs, it is easy to chart their experiences as writers and computer users during the course. After only a few days, most students were comfortable enough with the

word-processing program to key in handwritten rough drafts and revise them along the way. A few had begun composing and revising as they word processed.

Even students, who felt negatively about their writing abilities, such as Lou Anne who "loathed writing," wrote journal entries after the first couple of days in praise of the computer:

> I really enjoyed working with computers today and felt a sense of satisfaction. I do not like to write but was amazed at the fun of doing it on a computer. I had a rough draft of my reader response log with me when I began this morning. It was easy to put this on the computer and correct it. I can understand now why a student would be motivated to write using word processing. Many students, not unlike me, resist all efforts to write, knowing they have to rewrite a final copy. Yuk! Now I can't wait to get to the Writing Center to begin.

While most of the students were experiencing surges in confidence, both as writers and computer users, for some students experiencing the fun took longer. Mary had the most trouble. Yet she persisted, as her journal on the fifth day reveals:

> Today was filled with utter disgust and despair which reduced me to tears. I wanted to throw up my hands and walk out! This is contrary to my character and since I am a surviver, I simply gave myself a good internalized lecture! Losing the work that I was certain was saved was not the most frustrating part for me. I wanted to concentrate on procedures and techniques that I was eager to master.

Students who learned quickly also thought about their learning in terms of their teaching. Brenda wrote on the second day of class:

> I have already seen much that I can take back to my classroom. Many of my students are already comfortable with the computer, so my goal will be to help them in their writing process on the computer. Gifted students often balk at writing because it can be tedious and time-consuming. Now, it can be something they enjoy.

Even students who learned quickly, such as Jamie, also had difficult days. She wrote on the fourth day:

> As I was observing the demonstartion of formatting and how to print out copies, it seemed clear. The problems occurred when I went to do it on my own. Everything then seemed to be a tossed salad with no recognizable ingredients. Continued practice and assistance did help until my computer "froze." Class time was over, and that was a good place to stop.
>
> It will be important for me to focus on days like today when I am working with my students. I am sure that they, too, will experience many of the same feelings.

As the course unfolded, all of the students became capable of composing while word processing, of revising while composing, and of formatting and printing out their work. Each completed an individual project integrating theory and practice into pedagogical activities appropriate for his/her teaching situation. Many, like Melinda, also planned ways to use word processing and computers in other aspects of their professional lives. She wrote the second week of class:

> I find myself anxious to get a computer to use at home. I am already planning to roll one of the Apple IIe computers from the storage place in the library to my office at school. This will certainly uncomplicate my life.
>
> I am scheduled to take a two-day workshop to learn to use the Appleworks data base and spreadsheet. I would like to keep the Gifted/Talented records of my students on the computer as it would be much easier for me to add and delete information. Aha! Another plus for you, dear Apple IIe.

Although the teachers' increased self-confidence and skills as writers and users of computers is clearly an important step, as is their ability to devise new teaching and professional strategies for using computers, the critical question remained: to what degree would the teachers actually modify their teaching practices and integrate new approaches into their teaching of writing?

Of course, the first constraint would be the availability of equipment. The teachers were asked what problems they would face returning to their schools. Eleven of the 13 indicated the lack of computer hardware and software would be a major obstacle. Most also said the lack of time.

Given these limitations, were the students able to integrate computers into their teaching? What impediments did they face? Eleven of the thirteen students responded to a follow-up questionnaire.

Results of the Follow-Up Questionnaire

Eight of the eleven respondants indicated they were teaching writing more now than they had before the course. They also commented on their changed techniques in teaching writing. Many indicated using an expanded repertoire of writing activities: journals, free writing, poetry, and newsletters. Many of the teachers now ask students to do more revisions and editing, use peer response groups more frequently, and one stated she is no longer upset with students' mistakes.

Many of them have also become, as one teacher put it, "addicted to using computers." Two of the teachers owned computers at the start of the summer; six months later five owned them. Almost all said they planned to buy a computer as soon as finances permitted.

Eight teachers stated they now use word processing for their own writing. One teacher who does not, still has no computers in her school. Seven now teach writing with word processing. Six of these teachers are still the only ones in their schools to do so, although several mentioned a growing interest among fellow teachers. A few of these teachers now conduct in-service workshops in using computers for their collegues.

It should be noted that all of the teachers who teach with word processing rated the cooperation they've received

from their school's administrators from "fairly cooperative" to "very cooperative." However, two of the four respondants who do not use word processing rate their administrators "poor" on cooperation.

The teachers also indicated a variety of other ways they are benefiting personally and professionally from using computers: writing letters to parents, teaching their own children, maintaining class grades, keeping their gifted and talented records, writing lesson plans, writing papers for publication and for graduate courses, and for grant writing. One student, who was taking an independent graduate course, edited manuscripts for a new journal in gifted education using Appleworks.

Problems

Have there also been problems? Yes. As anticipated, the teachers have had to confront hardware and software problems. The ratio of computers to students while teaching ranges from the optimum of one student per computer, to 12 students for each computer. Sometimes, however, the computers are not of the same make. In addition, some teachers face scheduling problems and difficulties finding enough class time.

Many of the teachers have devised ingenious solutions to their problems. Some have turned to the parents and received donations of equipment, asked for and gotten local

industry to provide grant money, and received additional budget funds from their principals. Several of the teachers have been particularly resourceful in begging, borrowing, swapping, and finding ways to purchase software and hardware.

Many of these teachers have also had to transfer what they've learned using Apple IIe's and Appleworks to other hardware and other word-processing programs, e.g. Magic Slate, Speedscript, Funwriter, Paper Clip, and Pocketwriter. In addition to word processing, the range of other software they use is impressive: Newsroom, Print Shop, Certifcate Maker, Crossword Magic, Word Search, Printmaster, Monopoly, Sensible Grammar, spelling checkers, and a poetry writing program.

Teachers mentioned other problems: scheduling access to the computers, a lack of technical support, a lack of funds for reparations, and the length of time it takes students without keyboarding skills to complete a piece of writing.

Findings and Future Research

Each of the teachers appears to value the use of computers for writing and none of them appears to be experiencing conflicts between prior pedagogical philosophies and newly acquired theories and practices concerning teaching writing as process or the use of

computers as writing tools. Most of the teachers have incorporated word processing into their own writing and half of them teach writing using word processing. However, most of the teachers confront fairly serious obstacles in their schools that interfere with their ability to use computers for writing they way they would like to. A lack of computer hardware and software are the most common problems.

This research suggests various areas for further investigation. First, there is a need for large scale studies to look closely at the requirements of teacher education programs, particularly teachers of the gifted, in order to evaluate the appropriateness of their preparation in the teaching of writing and in the use of computers as writing tools. Second, future studies should look more closely at teachers teaching writing with computers, preferably via longitudinal classroom observations. Indepth descriptive studies would permit a better understanding of the practices of the successful teachers and insights into why others do not modify their existing practices as much or as effectively. Finally, the role of administrative support and its effects on whether or not teachers are able to successfully integrate computers into their classrooms merits further study.